What is claimed is:

1. A shelf-stable pharmaceutical formulation comprising a therapeutically effective amount of a GLP-1 molecule, a pharmaceutically acceptable preservative, and a tonicity modifier, wherein said formulation has a pH that is about 8.2 to about 8.8.

2. The formulation of claim 1, further comprising a buffer.

3. The formulation of claim 2, wherein the buffer is TRIS.

4. The formulation of claim 1, further comprising a surfactant.

5. The formulation of claim 4, wherein the surfactant is Brij-35.

6. The formulation of claim 1, wherein the GLP-1 molecule is an analog of GLP-1 and is selected from the group consisting of a peptide having the amino acid sequence:

R_1-X-Glu-Gly^{10}-Thr-Phe-Thr-Ser-Asp^{15}-Val-Ser-Ser-Tyr-Leu^{20}-Y-Gly-Gln-Ala-Ala^{25}-Lys-Z-Phe-Ile-Ala^{30}-Trp-Leu-Val-Lys-Gly^{35}-Arg-R_2 **(SEQ ID NO:2)**

and a pharmaceutically-acceptable salt thereof, wherein R_1 is His or desamino-histidine, X is Ala, Gly or Val, Y is Glu or Gln, Z is Glu or Gln and R_2 is Gly-OH.

7. The formulation of claim 6, wherein R_1 is L-histidine, X is Val, Y is Glu, Z is Glu, and R_2 is Gly-OH.

8. The formulation of claim 1, wherein the GLP-1 molecule is a derivative of GLP-1 and is selected from the group consisting of a peptide having the amino acid

sequence: NH_2-His[7]-Ala-Glu-Gly[10]-Thr-Phe-Thr-Ser-Asp[15]-Val-Ser-Ser-Tyr-Leu[20]-Glu-Gly-Gln-Ala-Ala[25]-Lys-Glu-Phe-Ile-Ala[30]-Trp-Leu-Val-X **(SEQ ID NO:3)**

and a pharmaceutically-acceptable salt thereof, wherein X is selected from the group consisting of Lys and Lys-Gly; a pharmaceutically-acceptable lower alkylester of said peptide; and a pharmaceutically-acceptable amide of said peptide selected from the group consisting of amide, lower alkyl amide, and lower dialkyl amide.

9. A method of enhancing the expression of insulin in a mammalian pancreatic β-type islet cell in need of said enhancement, comprising administering to said cell, an effective amount of a shelf-stable pharmaceutical formulation, wherein the formulation comprises a therapeutically effective amount of a GLP-1 molecule, a pharmaceutically acceptable preservative, and a tonicity modifier, and wherein said formulation has a pH that is about 8.2 to about 8.8.

10. The method of claim 9, wherein the formulation further comprises a buffer.

11. The method of claim 10, wherein the buffer is TRIS.

12. The method of claim 9, wherein the formulation further comprises a surfactant.

13. The method of claim 12, wherein the surfactant is Brij-35.

14. The method of claim 9, wherein the GLP-1 molecule is an analog of GLP-1 and is selected from the group consisting of a peptide having the amino acid sequence:

R_1-X-Glu-Gly[10]-Thr-Phe-Thr-Ser-Asp[15]-Val-Ser-Ser-Tyr-Leu[20]-Y-Gly-Gln-Ala-Ala[25]-Lys-Z-Phe-Ile-Ala[30]-Trp-Leu-Val-Lys-Gly[35]-Arg-R_2 **(SEQ ID NO:2)**

and a pharmaceutically-acceptable salt thereof, wherein R_1 is His or desamino-histidine, X is Ala, Gly or Val, Y is Glu or Gln, Z is Glu or Gln and R_2 is Gly-OH.

15. The method of claim 14, wherein R_1 is L-histidine, X is Val, Y is Glu, Z is Glu, and R_2 is Gly-OH.

16. The method of claim 9, wherein the GLP-1 molecule is a derivative of GLP-1 and is selected from the group consisting of a peptide having the amino acid sequence:

NH_2-His^7-Ala-Glu-Gly^{10}-Thr-Phe-Thr-Ser-Asp^{15}-Val-Ser-Ser-Tyr-Leu^{20}-Glu-Gly-Gln-Ala-Ala^{25}-Lys-Glu-Phe-Ile-Ala^{30}-Trp-Leu-Val-X **(SEQ ID NO:3)**

and a pharmaceutically-acceptable salt thereof, wherein X is selected from the group consisting of Lys and Lys-Gly; a pharmaceutically-acceptable lower alkylester of said peptide; and a pharmaceutically-acceptable amide of said peptide selected from the group consisting of amide, lower alkyl amide, and lower dialkyl amide.

17. A method for treating diabetes comprising administering to a patient in need of such treatment an effective amount of a shelf-stable pharmaceutical formulation, wherein the formulation comprises a therapeutically effective amount of a GLP-1 molecule, a pharmaceutically acceptable preservative, and a tonicity modifier, and wherein said formulation has a pH that is about 8.2 to about 8.8.

18. The method of claim 17, wherein the formulation further comprises a buffer.

19. The method of claim 18, wherein the buffer is TRIS.

20. The method of claim 17, wherein the formulation further comprises a surfactant.

21. The method of claim 20, wherein the surfactant is Brij-35.

22. The method of claim 17, wherein the GLP-1 molecule is an analog of GLP-1 and is selected from the group consisting of a peptide having the amino acid sequence:

R_1-X-Glu-Gly^{10}-Thr-Phe-Thr-Ser-Asp^{15}-Val-Ser-Ser-Tyr-Leu^{20}-Y-Gly-Gln-Ala-Ala^{25}-Lys-Z-Phe-Ile-Ala^{30}-Trp-Leu-Val-Lys-Gly^{35}-Arg-R_2 **(SEQ ID NO:2)**

and pharmaceutically-acceptable salts thereof, wherein R_1 is His or desamino-histidine, X is Ala, Gly or Val, Y is Glu or Gln, Z is Glu or Gln and R_2 is Gly-OH.

23. The method of claim 22, R_1 is L-histidine, X is Val, Y is Glu, Z is Glu, and R_2 is Gly-OH.

24. The method of claim 17, wherein the GLP-1 molecule is a derivative of GLP-1 and is selected from the group consisting of a peptide having the amino acid sequence: NH_2-His^7-Ala-Glu-Gly^{10}-Thr-Phe-Thr-Ser-Asp^{15}-Val-Ser-Ser-Tyr-Leu^{20}-Glu-Gly-Gln-Ala-Ala^{25}-Lys-Glu-Phe-Ile-Ala^{30}-Trp-Leu-Val-X **(SEQ ID NO:3)**

and pharmaceutically-acceptable salts thereof, wherein X is selected from the group consisting of Lys and Lys-Gly; a pharmaceutically-acceptable lower alkylester of said peptide; and a pharmaceutically-acceptable amide of said peptide selected from the group consisting of amide, lower alkyl amide, and lower dialkyl amide.

25. The formulation of claim 1, further comprising a long-acting insulin agent.

26. A method of providing meal-time glycemic control and basal glycemic control with a single injection comprising administering to a patient in need thereof an effective amount of a shelf-stable pharmaceutical formulation, wherein the formulation

comprises a therapeutically effective amount of a GLP-1 molecule, a long acting insulin agent, a pharmaceutically acceptable preservative, and a tonicity modifier, wherein said formulation has a pH that is about 8.2 to about 8.8.